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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,966	12/05/2001	Timothy R. Spooner	Analog5721-4	1813

7590 12/04/2002  
Samuels, Gauthier & Stevens LLP  
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EXAMINER

GEYER, SCOTT B

ART UNIT PAPER NUMBER

2829

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/006,966

Applicant(s)

SPOONER ET AL.

Examiner

Scott B. Geyer

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-156 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-156 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. The election requirement of the previous office action, paper no. 5, is withdrawn. A new requirement is hereby made.

#### *Election/Restrictions*

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- sub* I. Claims 1-34, 99-106, 111, 115-123 and 128-141, drawn to a method for protecting a MEMS structure during a dicing of a MEMS wafer to produce individual dies, classified in class 438, subclass 460+.
- combo* II. Claims 35-68 and 107-110, drawn to a method for protecting a MEMS structure during a production of individual dies, classified in class 438, subclass 106+.
- III. Claims 69-98, 112-114, 124-127 and 142-156, drawn to a laminated MEMS wafer, classified in class 257, subclass 678+.

The inventions are distinct, each from the other because of the following reasons:

2A. Inventions II and I are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the

subcombination does not require packaging of the separated dies. The subcombination has separate utility such as a manufacturing method.

**2B.** Inventions (I and II) and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the MEMS device structures could be made singularly, after a wafer has been singulated. The individual wafer sections could then be processed for addition of a MEMS structure upon their surfaces singularly in a clean-room environment. A clean-room manufacturing environment would further negate the need for a removable protective cap layer thereby achieving the same end product as the applicant's claimed method(s).

**2C.** Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

**2D.** Because these inventions are distinct for the reasons given above and the search required for Groups I and II are not required for Group III, restriction for examination purposes as indicated is proper.

**3.** This application contains claims directed to the following patentably distinct species of the claimed invention. Applicant is required to choose ONE from each of the following 'lettered' groups (A through F) after first electing one of the groups listed above:

**Group A**, wherein the cap material is:

1. Glass-based or silicon-based;
2. Ceramic-based;
3. Metal or a static dissipative material;
4. Polymer based.

**Group B**, wherein the adhesive is:

1. UV light releasable or UV organic;
2. Heat releasable or thermoplastic organic
3. Combination of UV light releasable/UV organic and heat releasable/  
thermoplastic organic;
4. Solder.

**Group C**, wherein the separation is effected by:

1. A saw;
2. A laser;
3. Scribing and breaking.

**Group D**, wherein the film frame is:

1. Utilized as a flat tape, as in figure 3, numeral 13;
2. Not utilized as in figures 6-8;
3. Pre-cut contiguous tape (see figure 11, numeral 25) with a film frame  
(figure 11, numeral 23) and a backing tape (figure 12, numeral 29).

**Group E**, concerning use of a spacer layer wherein the spacer is:

1. The spacer layer and adhesive layer comprise a tape having adhesive on two sides and a flexible film;
2. The spacer layer and adhesive layer comprise a flexible film with adhesive medium on one side;
3. The flexible film of the spacer layer is transmissive to UV radiation and about 40 mils thick;
4. The spacer layer and adhesive layer comprise a plurality of layers of perforated tape;
5. A spacer layer is not utilized.

**Group F**, wherein a mass transport tape:

1. Is utilized, as in figure 23, numeral 111;
2. Is not utilized.

/

An example of a correctly identified election would be as follows:

the method of Group I, drawn to a method for protecting a MEMS structure during a dicing of a MEMS wafer to produce individual dies, with species A2,B4,C2,D1,E3,F2 as follows: the cap is ceramic based, the adhesive is solder, the separation is performed by a laser, the film frame is utilized as a flat tape (as in figure 3, numeral 13), the flexible film of the spacer layer is transmissive to UV radiation and about 40 mils thick, and a mass transport tape is not utilized.

**3A.** Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims are generic.

**3B.** Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

**3C.** Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

**3D.** Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

**3E.** A telephone call was not made to the applicant due to the complexity of the present restriction requirement.

**3F.** Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

**3G.** Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Conclusion***

**4.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (703) 306-5866. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. The examiner may also be reached via e-mail: [scott.geyer@uspto.gov](mailto:scott.geyer@uspto.gov)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*S.B.G.*

S.B.G.

November 25, 2002

  
KAMAND CUNEO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800